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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,155	07/31/2003	Viresh Ratnakar	API79HO	2231
20178 7590 12/19/2008 EPSON RESEARCH AND DEVELOPMENT INC INTELLECTUAL PROPERTY DEPT 2580 ORCHARD PARKWAY, SUITE 225 SAN JOSE, CA 95131				
EXAMINER				
RAO, ANAND SHASHIKANT				
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2621				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/631,155

**Applicant(s)**

RATNAKAR ET AL.

**Examiner**

Andy S. Rao

**Art Unit**

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10/1/08.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Request for Reconsideration***

1. Applicant's arguments filed on 10/1/08 with respect to claims 1-3, 5-17 have been fully considered but they are not persuasive.
2. Claim 2 of the instant application remains provisionally rejected on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over claim 5 of copending Application No. #10/783,696, as was set forth in the Office Action of 7/1/08.
3. Claims 1-3, 5-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Pejhan et al., (hereinafter referred to as "Pejhan"), as was set forth in the Office Action of 7/1/08.
4. The Applicant's presents five arguments contending the Examiner's collective rejections of claim 2 of the instant application on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over claim 5 of copending Application No. #10/783,696, and of claims 1-3, 5-15 under 35 U.S.C. 102(e) as being anticipated by Pejhan et al., (hereinafter referred to as "Pejhan"), as was set forth in the Office Action of 7/1/08. However, after a careful consideration of the reference and further scrutiny of the arguments, the Examiner must respectfully disagree and maintain the grounds of rejection for the reasons that follow.

After summarizing the current stage of prosecution (Request for Reconsideration of 10/1/08: page 6, lines 1-10), repeating the specifics of the rejection (Request for Reconsideration of 10/1/08: page 6, lines 11-17), and providing Applicant's interpretation of the cited sections of the reference used in the rejection (Request for Reconsideration of 10/1/08: page 6, lines 18-28; page 7, lines 1-2), the Applicant argues that Pejhan fails to disclose "variable parameters for changing specific settings of a coding algorithm..." as in the claims (Request for

Reconsideration of 10/1/08: page 7, lines 3-5). The Examiner flatly disagrees. It is noted that the citation in question would called upon to show that the selection and application of a coding mode was called upon to read upon the coding algorithm of the limitation. The specific settings that can varied for coding algorithm application are: the motion file for specifying the macroblock size (Pejhan: column 6, lines 55-67), motion estimation computational costs (Pejhan: column 3, lines 3-21), client/server frame rate matching (Pejhan: column 3, lines 25-45), real-time coding requirements (Pejhan: column 6, lines 45-55), and even the desired motion determination metric (Pejhan: column 7, lines 10-25). All of these variables are specified and used for coding mode selection and algorithm application at the server side encoders. As such, the Examiner firmly maintains that this limitation is met by the reference.

Secondly, the Applicant's argue that Pejhan fails to disclose a decoder having a decoding algorithm with multiple variable parameters for changing different settings in the decoding algorithm (Request for Reconsideration of 10/1/08: page 7, lines 3-17). The Examiner respectfully disagrees. It is noted that the decoder disclosed in the reference would configure the decoding algorithm of a decoding mode selection and application in accordance with the same variables considered at the encoder side on the server: the motion file for specifying the macroblock size (Pejhan: column 6, lines 55-67), motion estimation computational costs (Pejhan: column 3, lines 3-21), client/server frame rate matching (Pejhan: column 3, lines 25-45), real-time coding requirements (Pejhan: column 6, lines 45-55), and even the desired motion determination metric (Pejhan: column 7, lines 10-25). In particular, it is duly noted that clients (i.e. decoders) have the specific ability to specific frame rates at the client (Pejhan: column 3, lines 55-65), and also can specify desired quantization parameters and target bit rates (Pejhan:

column 7, lines 50-60). The citation was relied upon to show the presence of a decoding element operation in concert with the already established encoding element of the reference. Accordingly, the Examiner maintains that the limitation remains met.

Furthermore, after referring to the rejection (Request for Reconsideration of 10/1/08: page 7, lines 18-25), and providing Applicant's interpretation of the applied reference (Request for Reconsideration of 10/1/08: page 7, lines 26-31), the Applicant's argue that Pejhan fails to address "...having variable parameters for controlling coding settings that can be changed dynamically during operation of the coding algorithm..." as in the claims (Request for Reconsideration of 10/1/08: page 7, lines 31-34). The Examiner flatly disagrees. Pejhan discloses that the encoder incorporates "...dynamic frame rate control..." which to the Examiner clearly reads upon the limitation (Pejhan: column 3, lines 65-67; column 4, lines 1-6). Also, the Examiner would that the drawbacks mentioned are not from a discussion of prior art, but considerations that the disclosed server has to consider in order to perform a re-encoding if needed (Pejhan: column 3, lines 19-23). That is, this server is taking into consideration all these variable and settable parameters discussed herein in performing the desired re-encoding. The Examiner would further note that these parameters are set so that the encoder can function, as the encoder cannot arbitrarily initiate the desired encoding features without taking into account the settable parameters specifying client desired operation (Pejhan: column 3, lines 3, lines 13-17). Accordingly, the Examiner maintains that the limitation remains met.

Additionally, with regards to rejection of claim 2 (Request for Reconsideration of 10/1/08: page 7, line 35; page 8, lines 1-8), the Applicant argues that cited portions of the reference fail to make mention of an encoding algorithm having dynamic variable parameters

such as "...for any of the recited: "motion-search window, motion-search algorithm, motion-search sum-of-absolute-differences measurement sub-sampling factor, and motion- search half-pel refinement none/x-only/x-and-y..." as in the claim (Request for Reconsideration of 10/1/08: page 8, lines 9-17). The Examiner respectfully disagrees. The Examiner notes that the reference discloses either using or not using a full search algorithm and the accompanying performance issues (Pejhan: column 3, lines 9-12) which reads upon the "motion-search algorithm" limitation; discloses the use of motion vector offsets (Pejhan: column 4, lines 60-65: offsets inherently include x and y coordinates) which reads upon the "motion- search half-pel refinement none/x-only/x-and-y" limitation; discloses the use motion file information (Pejhan: column 6, lines 55-65) which reads upon the "...motion search window..." limitation; and discloses the calculation of the macroblock based SAD measure (Pejhan: column 7, lines 10-25) which reads upon the "...motion- search sum-of-absolute-differences measurement sub-sampling factor..." as in the claim. As discussed above, each of these features is settable and they relate to the dynamic frame rate control of the reference. Accordingly, the Examiner maintains that the limitation remains met.

With regards to the rejection of claim 3 (Request for Reconsideration of 10/1/08: page 8, lines 18-24), the Applicant's argue that the citations in question fail to disclose IDCT, chroma-skipping, and frame-display skipping (Request for Reconsideration of 10/1/08: page 8, lines 25-29). The Examiner respectfully disagrees. It is noted that the citation in question (Pejhan: column 45-60; column 4, lines 7-30) clearly covers two of the features. In particular, through dynamic frame rate control at the client includes frame display skipping (Pejhan: column 3, lines 15-20: i.e. frame dropping), and chroma skipping (Pejhan: column 4, lines 7-30: one of the Y/C

preprocessing modes). The Examiner notes that the IDCT would be met by the inverse application of the DCT (Pejhan: column 5, lines 15-35) either on a field or frame basis (Pejhan: column 5, lines 1-7), or a non unitary IDCT based on shape of the coding element (Pejhan: column 6, lines 55-65: such as the shape of a VOP). Accordingly, the Examiner maintains that the limitation remains met.

Lastly, the regards to the newly added claims 16-17, the Applicants posit that although Pejhan discloses the selection of coding modes, and allegedly deficient decoding algorithms (already refuted by the Examiner), it fails to disclose the use of having two sets of parameters respectfully relate to a single encoding algorithm and a single decoding algorithm, and not to a selection of different encoding coding algorithm (Request for Reconsideration of 10/1/08: page 8, lines 30-36). The Examiner respectfully disagrees. It is noted that the MPEG-2 coding algorithm can be implemented rudimentarily with changes in a desired frame rate, and a desired target bit rate (Pejhan: column 7, lines 50-61), and that this would likewise occur at the decoder (Pejhan: column 3, lines 20-30). Accordingly, the Examiner maintains that these limitations are met.

A detailed rejection of claims 16-17 follows.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 16-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Pejhan et al., (hereinafter referred to as "Pejhan").

Pejhan discloses a codec (Pejhan: column 3, lines 20-30), comprising: an encoder (Pejhan: column 3, lines 27-31) that includes a first plurality of variable parameters (Pejhan: column 5, lines 1-6) that are used to specify different settings at which a coding algorithm applied to incoming video data operates (Pejhan: column 3, lines 5-21); and a decoder that includes a second plurality of variable parameters that are used to specify different settings at which a decoding algorithm applied to outgoing video data operates (Pejhan: figure 1, element 114); wherein the codec is configured such that, during operation, at least one of the coding algorithm and decoding algorithm is able to dynamically change its operating setting according to available computational resources in response to actual complexity measurements performed



at run-time (Pejhan: column 3, lines 10-20), wherein the coding algorithm is a single coding algorithm (Pejhan: column 7, lines 50-62), as in claim 16.

Pejhan discloses a codec (Pejhan: column 3, lines 20-30), comprising: an encoder (Pejhan: column 3, lines 27-31) that includes a first plurality of variable parameters (Pejhan: column 5, lines 1-6) that are used to specify different settings at which a coding algorithm applied to incoming video data operates (Pejhan: column 3, lines 5-21); and a decoder that includes a second plurality of variable parameters that are used to specify different settings at which a decoding algorithm applied to outgoing video data operates (Pejhan: figure 1, element 114); wherein the codec is configured such that, during operation, at least one of the coding algorithm and decoding algorithm is able to dynamically change its operating setting according to available computational resources in response to actual complexity measurements performed at run-time (Pejhan: column 3, lines 10-20), wherein the decoding algorithm is a single decoding algorithm (Pejhan: column 3, lines 20-30), as in claim 17.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (571)-272-7337. The examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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December 17, 2008